A'cent

expressed in the form of NH_4^+, with respect to the content of chromium in the catalyst, expressed in the form of Cr_2O_3.

12. The catalyst according to claim 11, in which the content of ammonium salts is less than or equal to 0.1% by weight of ammonium salts.

13. The catalyst according to claim 11, additionally comprising other metals or salts of other metals and their mixtures as cocatalyst.

14. The process for the hydrofluorination of a halogenated hydrocarbon which comprises reacting a halogenated hydrocarbon with hydrogen fluoride in the presence of the catalyst according to claim 11.

15. The process according to claim 14, wherein the halogenated hydrocarbon is an aliphatic alkane corresponding to the general formula $C_wH_xX_yF_z$ (I), wherein

w is an integer between 1 and 6,

x is an integer between 0 and (2w + 1),

y is an integer between 1 and (2w + 1),

z is an integer between 0 and (2w + 1),

the sum (x + y + z) has the value (2w + 2) and

X represents chlorine or bromine.

16. The process according to claim 14, wherein the halogenated hydrocarbon is an aliphatic alkene corresponding to the general formula $C_wH_xX_yF_z$ (I), wherein

w is an integer between 1 and 6,

x is an integer between 0 and (2w - 1),

A' cont.

y is an integer between 1 and (2w - 1),

z is an integer between 0 and (2w - 1),

the sum (x + y + z) has the value 2w and

X represents chlorine or bromine.

17. The process according to claim 14, wherein the reaction of the halogenated hydrocarbon with the hydrogen fluoride takes place in a gas phase.

18. A process for the synthesis of pentafluoroethane which comprises reacting hydrogen fluoride and a compound selected from the group consisting of perchloroethylene, fluorotetrachlorethane, difluorotrichloroethane, trifluorodichloroethane and chlorotetrafluoroethane.

19. The process according to claim 14, wherein difluoromethane is produced by reacting hydrogen fluoride and dichloromethane.

20. The process according to claim 14, wherein 1,1,1,2-tetrafluoroethane is produced by reacting hydrogen fluoride and a compound chosen from trichloroethylene or 2-chloro-1,1,1-trifluoroethane.

21. The process according to claim 14, wherein pentafluoroethane is produced by reacting hydrogen fluoride and a compound selected from the group consisting of perchloroethylene, fluorotetrachlorethane, difluorotrichloroethane, trifluorodichloroethane and chlorotetrafluoroethane.--